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consist in its superior flexibility and in its capacity for progress,—in addition to its interaction with the human will.

In view of these facts, we Americans should not regard our traditional democracy as an outworn system. We should, it is true, always be ready to open up new channels for its life. The demand of the day is for higher standards, for a firmer self-discipline, for a new talent for heeding expert advice. Scientific management and order should be new keynotes for the American spirit. In pushing forward these new developments, however, let us not neglect the basic principle of freedom.

PERSONAL RELATIONSHIP AS A BASIS OF SCIENTIFIC MANAGEMENT¹

By RICHARD A. FEISS,

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Given two establishments in the same industry, in the same locality, build for them the same buildings, equip them with the same machinery and establish for them similar methods of handling equipment and materials—yet, in the course of a short time, there will be a difference in both the quantity and the quality of their output. This difference in result will be caused by the difference between the two in the quality of their personnel. For this reason alone the question of personnel must ultimately be considered the real problem of management.

If one of the above plants were headed by a management of the ordinary or traditional type and the other by a management which fully realized the importance of personnel and had developed an active philosophy tending toward the solution of the personal problem, the difference in practical results would be so great as to be unbelievable by the uninitiated. In fact, this difference alone would often spell failure in the one case and success in the other.

The managers of both plants would see the shortsightedness of letting buildings and other equipment run down for lack of upkeep

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and repair. Both would see the value of and put into practice means for running the machinery at the most efficient speeds and bringing into use the best tools and the best method of handling material. It would be taken for granted by both that anything that goes to the improvement and upkeep of these things would be a necessary expenditure or a wise investment. The ordinary management, however, would not think of applying the same laws of upkeep and improvement to the personal equipment.

The ordinary or unscientific manager believes that factory management consists of the handling of orders, materials, and machinery, and that the men in the plant are a mere adjunct to these things—a necessary evil. When this type of manager is confronted with the fact that his organization is less efficient than another he will lay the blame on his employes and say, "I haven't the same kind of people that the other fellow has." In making this statement he will be absolutely correct, but he does not realize that the fellow with the other point of view has developed a particular kind of people as an essential part of the responsibility of management.

The old type of management would at the best consider expenditures for the development of personnel as an unnecessary outlay forced upon it by unintelligent public opinion, or would consider it a politic expenditure which would bring a certain amount of cheap advertising at the expense of fair wages. The enlightened, or scientific type of management would consider expenditures of this kind not only wise, but also an investment bringing proportionately larger and more permanent returns than all other kinds. Full value of all expenditures or investments for upkeep and improvement of a plant can be realized only when sufficient investment of both time and money has been made for the purpose of improvement and upkeep of the personal side. In fact, the management which has the correct viewpoint will find that the mechanical and material side of the organization will be better developed as a necessary incident to *personal* development than it would be where this point of view is reversed. This is well illustrated in the Clothcraft Shops of The Joseph & Feiss Company, where this philosophy has been the basis of its development of scientific management.

Only actual comparison of the mechanical and other develop-

ments in this establishment with those in the next best establishment in the men's clothing industry would suffice to prove this point. The industry generally is not in a very advanced state. The usual type of management is at the best only beginning to realize the existence of the personal side. As a result, machinery and equipment are almost universally limited to a few undeveloped or semi-developed types, regardless of whether or not they are most suitable for the purpose in the hands of the individual operator. In practically all these factories you will find only a few types of machines, and these set up and equipped as they come from the manufacturers and running at haphazard speeds. Shears and all other tools are any which the employe chooses to furnish for himself.

In the Clothcraft Shops, working from the personal point of view, tools are not only developed and prescribed with regard to their suitability for the purpose of individual accomplishment, but all tools are furnished and maintained by the management. Fully 50 per cent of the different types of machines in use at the Clothcraft Shops are not, as far as is known, used in any other establishment in the industry, and practically every machine in use has been developed so as to be specially adapted for its particular purpose in the hands of the individual who uses it. In like manner the proper handling of materials and the installation of other methods developed under scientific management have been introduced in this establishment as necessary steps in the development of the highest efficiency of the individual.

We believe the point of view outlined above to be of the essence of scientific management. Scientific management aims directly at increasing the quality and quantity of the output of an organization by increasing the quality and quantity of the output of the individual worker. While scientific management in its application must necessarily go deeply into the question of improved machinery and equipment, and while this in itself makes for greater output, nevertheless, a machine is a tool, and, like any other tool, is devised to increase the efficiency of the individual to whose direct and personal control it must always be subject. The question of quality, even in the case where highly developed machinery is used, is almost entirely a question of the personal element. As for the question of quantity, the real measure of accomplishment is not output per machine or per tool, but output per man.

Scientific management will not have completed its mission when it has determined in each industry the best method of handling materials and equipment in relation to workers, but when it has determined also the principles which underly correct methods of handling men. It is the purpose of this paper to show what is being done from this point of view at the Clothcraft Shops with the purpose of showing what a little effort in the right direction can accomplish. A further purpose of this paper is to bring to the attention of those interested in the future of scientific management the degree to which management is, in the final analysis, the handling of men and to emphasize that scientific management is scientific only in so far as it recognizes this fact.

From the point of view of the writer the responsibility of handling men from the time of their original selection is the most important responsibility of factory management. It is this responsibility which creates the function of employment in its broadest sense. It is only beginning to be recognized, however, that employment is a function of management. Even where considered an essential part of management, the employment function, with few exceptions, consists only of the original selection of applicants.

Scientific employment includes not only the selection of new employes, but also the keeping of every position in the organization permanently filled with the right kind of man or woman. The main part of scientific employment begins after the act of hiring is completed. Considered from this point of view, it is one of the most important functions of management, and one that requires constant scientific analysis and development. For this purpose it is essential that every industrial organization should have a department for the purpose of administering this function. Mr. Frederick Winslow Taylor, in mentioning the disciplinarian function in his works, undoubtedly had the employment function in mind and recognized its vast importance. While a very small organization may not be able to afford even one person whose sole function is the business of employment, this activity should nevertheless be recognized as a separate and most important function and in such cases administered by the manager or assistant manager himself.

This employment function can under no circumstances be administered properly by some head or underling of an operating department. Many of the questions with which the employment

department has to deal are questions in which an operating head is an interested party; his very position, therefore, disqualifies him from administering this function. The qualifications required of such a person are essentially different from those required of one administering an employment department. Moreover, the qualifications which are generally considered essential to the head of an operating department are special knowledge or mechanical ability and sometimes a certain amount of executive ability. While some executive ability is a useful asset in administering the employment function, the chief qualities required are capacity to investigate and judge impartially, tact, a sincere interest in human affairs and a personality that inspires confidence.

All responsibilities of the management in the direction of personal service, directed toward the welfare and development of the individual, are part of the function of employment. For the purpose of administering this function, the Clothcraft Shops of The Joseph & Feiss Company have established an employment and service department. In this organization this department is considered one of the most important adjuncts to the management.

While, as mentioned above, hiring is only a small part of the function of employment, nevertheless, the solution of the problem of selection is of great importance in its bearing on the whole future development of the worker. All applicants for positions are interviewed by one of the heads of the employment and service department of the Clothcraft Shops. Certain specific information concerning the applicant is obtained in every case and entered on a blank for the purpose. (See figures 1 and 2.) Information deemed essential consists of:

- Name and address.
- Date of application.
- Date and place of birth.
- Date of immigration, if foreign born.
- Parentage.
- Languages spoken.
- Education.
- Whether married or single.
- Number in family.
- Wage contribution to family support.
- Record of previous employment.

The idea should be to keep such records as simple as possible;—only the important details being entered.

APPLICATION RECORD OF Doe, Jane				
<small>DESIGNED BY THE JOSEPH & FELS CO., CLEVELAND, OHIO</small>				
APPLIED Apr. 15, 1915 Address 1323 W. 48th. For Handwork				
Birthdate Oct 6, 1897 Birthplace Cleveland, O. Suitability Fair				
Immigrated — Parentage Am. - Ger. Married No				
Family F. M. S. 14-12-16 B. 22 Wage Contrib. Partial (necessary)				
REFERENCES Mary Smith 3				
<small>(IN OUR EMPLOY)</small> Susy Jones 3				
PREVIOUS EMPLOYMENT				
John Smith & Co. (waists) 13 mo.		Hand sewing \$7. wk.		Dissatisfaction
Brown Bros. 1 yr.		Clerical \$5. wk.		low wages
Mrs. S. T. Baker, Lorain 2 mo.		Housework \$4.50 wk.		To beat home nights.
American Knitting Co. 4 mo.		Clipping \$5. wk.		Trouble with foreman
EMPLOYED May 10, 1915 By M.		Class W. F. W. No. 84-2 Rate P. W.		
Operation Sleeves felled		Locker 1027 Fore. J. T.		Checked ✓
Approved S.		Signature Jane Doe		

Figure 1—Application Blank (Front)

QUALIFICATIONS: A 2 +

M 3

13

43

Languages Eng. Ger.

Education 7th grade (Public School) + 3 mo. Business College

NOTES: Anemic, listless in appearance. Will need careful follow up physically. Desirous of working here because she has heard there is good chance for advancement. Father out of work most of the time. Mother came along when application was taken and promised to cooperate with nurse, etc.

FIGURE 2—Application Blank (Back)

Languages spoken may be important in many organizations for various reasons. In this establishment English-speaking applicants are given preference. In case employment should be given to an applicant who does not understand English, the applicant must agree to attend one of the classes in English which are held at the factory.

The Board of Education of the city of Cleveland has coöperated by furnishing teachers and text-books for these classes. Where applicants do not speak the English language, it has often been found that their residence in the country, and, consequently, their employment is considered merely temporary by them. In the case of those who do not speak the English language, it has been found very difficult to impart instructions and to obtain proper standards of output and quality. Of thirty-five employes (out of a total of nearly 800) who have not sufficient knowledge of English to understand instructions thoroughly, only one has reached efficiency equal to that of the best doing the same kind of work. Eight of this number have reached efficiency equal to less than the average and the remaining twenty-six are the least efficient at their respective operations. Moreover, people who cannot speak the same language, cannot understand each other thoroughly and therefore can never attain that state of friendly feeling which is the basis of coöperation and spirit.

The matter of wage contribution is important. Other things being equal, preference should be given to those who have to support themselves or whose contribution to the family income is a necessity. The custom of contributing the entire earnings to the family income is often an important element in inefficiency, especially where the contribution is in the whole or in part unnecessary. Younger women who live at home are often required to turn over the entire contents of their pay envelopes to the head of the family, even where such a contribution is not necessary. By depriving the worker of the use of his earnings, the incentive toward efficiency is removed and ambition destroyed. Cases of this kind are being constantly handled by the employment and service department. A home visit by one of the staff has always resulted in an agreement, being reached with the parents by which a stipulated sum was paid into the family exchequer and the remainder of the earnings kept by the employe in question and deposited in the Clothcraft Penny

Bank. Such an arrangement has always proven beneficial and has developed an increase of efficiency ranging from 20 per cent upward. A case in point is that of Tillie B. who had been the subject of a great deal of attention over a long period of time for the purpose of increasing her earnings, which averaged thirteen cents per hour. After an arrangement such as mentioned above had been made, Tillie's earnings immediately jumped and soon reached twenty-two cents an hour, which she held until she left the organization to be married.

Information as to past employment is important as a record of experience and earnings. The number of positions held is also an indication as to whether or not the applicant is a floater. For purposes of reference, this information is of little or no value and is never used at the Clothcraft Shops. Wherever possible, however, applicants give as their references members of the Clothcraft organization. This tends to keep alive in the organization an active interest in the kind of new employees. It is, moreover, a good indication of the applicant's character, since although a person cannot always be judged by his family, he can generally be judged by his friends.

The interviewing of applicants is important and requires considerable tact, judgment and experience. Ample space should be left on every application form for making notes as to the individual's special qualifications as well as any other circumstances surrounding the case. As judgment is essential, and as judgment is influenced by immediate impression, in this establishment no one is employed on the date of application. Postponement of selection tends to bring all applicants in their proper relationship in the mind of one who has the responsibility of their selection. This method moreover, tends to reduce the number of floaters who otherwise might get on the payroll.

Application records are classified as to sex, age and apparent suitability. When a position is to be filled, one or more applicants are sent for. A definite time is set for their appearance and self-addressed postal cards are enclosed to be mailed in case appointments cannot be kept. At this time selection is made for immediate employment and the fitness of the applicant is more definitely determined.

As a rule, in industrial establishments, where the question

arises at all, only fitness for the work is considered. There are, however, two kinds of fitness to be considered, provided a person is suited for industry at all; one is fitness for the position; the other is fitness for the organization. Of these the latter is by far the more important.

Fitness for the organization is chiefly a question of character. Every organization has a distinct character of its own, which is often recognized as being a tangible business asset. It is essential, therefore, that every member of the organization have a character sufficiently developed or capable of development to be in harmony with the character of the organization. This is the basis of *esprit de corps*. No matter how skilled or fitted one may be to do a given piece of work, if he is out of harmony with the spirit or character of the organization, he will be an everlasting detriment to himself and all others in the organization who come in contact with him.

The interview of the applicant by a trained head of the employment and service department is the basis of predetermining as far as possible both the fitness for a position and for the organization. In judging fitness for a position, past experience, where there is any, is sometimes a guide. At the best, however, it is a guide of only doubtful value. Personal choice can be taken in some instances also as a guide. This predilection furnishes in itself a valuable incentive. Often, however, it is a case of bringing the child up on candy because he likes it. When considered at all, it is important to weigh carefully all the reasons for the predilection.

The applicant's fitness for the organization, while more important, is more readily predetermined by interview. The interview at the time of employment is very thorough and designed to explain to the prospective employe the character of the organization and its policies, and the responsibilities of the organization to the employe as well as the responsibility of the employe to the organization.

As the aim of the employment and service department is to keep every position in the organization filled with fit men and women, the question of physical and mental fitness of the individual is of prime importance. For the physical needs at the Clothcraft Shops a complete medical department is maintained as part of the employment and service department. A graduate nurse is in direct charge of this work. The equipment includes a dispensary, sepa-

rate rest rooms, a waiting room and a consultation room for the factory physicians. The medical staff consists of a physician, an oculist and a dentist. The physician is at the factory three mornings a week, the oculist two mornings, and the dentist one morning. All medical work done at the factory is paid for by the company. Outside service of the factory physician is furnished to employees and their families at special rates, except in instances where the employment and service department recommends treatment at the company's expense. In order to facilitate physical examinations required, the time of taking on new employees is being regulated so as to coincide with the time that the physician spends at the factory. Physical examinations of all members of the organization are repeated annually or with greater frequency if there is cause.

The eye examination is of the greatest importance in considering applicants for certain positions. A preliminary examination is made by the nurse in order to discover any obvious defects of vision. Arrangements have been made by which, in case the oculist later prescribes glasses, they can be procured from a first-class optician at half the regular price. One of the greatest obstacles in connection with this work is the fact that many people who are in need of proper glasses have had glasses supplied to them by optical stores or by itinerant vendors without the advice of a practicing oculist. In most cases the trouble has only been aggravated. The benefits of an eye examination and the prescribing of proper glasses are readily apparent. In one case a young woman had worn the same glasses for a number of years. She had obtained them from a dealer whose business enterprise included the sale of glasses and jewelry. The young woman realized thoroughly that her eyesight was poor and complained constantly of eye strain and headaches. She was an employe of the firm for a number of years and had always been more or less inefficient. Examination of her eyes by the factory oculist proved not only that her eyesight was very poor, but that the glasses which she had been wearing for six years were fitted with nothing but plain window glass. Fitting her with proper glasses not only entirely eliminated the headaches, but, within a period of a few weeks, resulted in an increase in efficiency to a standard equal to the best.

The importance of proper care of the teeth is realized by few. Many chronic cases of headache, neuralgia or stomach trouble

have been directly traced to neglected conditions of the teeth or poor dental work already done. Only when one considers the number of ailments that can be traced to the neglect of the teeth, and the inefficiency and lost time that can be traced directly or indirectly to this cause, can one realize its importance. Of the hundreds of dental examinations made at the Clothcraft Shops, less than 15 per cent of the cases were found to have teeth that were properly cared for and in good condition. Consultation with a number of practicing dentists in the city of Cleveland has brought out the fact that this percentage is considerably better than the average. Besides the permanent record kept of the condition of the teeth, a chart is given to every one who is examined and an estimate made of the cost of work where needed. The dental work at the factory is limited to examination, advice and prophylaxis. At the time of examination thorough instruction is given in the proper care of the teeth. With this, as well as with the rest of the physical examination, the most important features are the instruction given at the time of the examination and the systematic follow-up.

All the work would be of little value if the preventive side were neglected. Not only are accurate records kept for this purpose (see Figure No. 3) but it is part of the responsibility of every member of the employment and service department to follow up the work in all of its phases at every opportunity.

No one is permitted to leave the shop for any cause whatever without consulting the employment and service department, unless dismissed from work in the regular way. This rule of procedure makes it necessary that permission for all absences be obtained from one source. This not only provides intelligent handling of such cases, thereby insuring justice and equality of treatment, but also brings promptly to the notice of the employment and service department practically every case requiring medical attention, no matter how insignificant.

Accidents are not of the major kind in the clothing industry, and even minor accidents have been practically eliminated at the Clothcraft Shops by a thorough system of safety devices and instruction. There are naturally, however, a number of cases where fingers are pricked in handling needles or where other minor injuries are incurred either away from or at work. Ordinarily these things are neglected and cause a great deal of inconvenience and much

Date of Birth 3 Mch. 1884

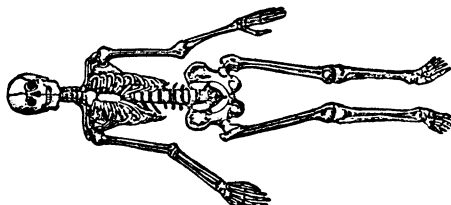
Employed 4 Jan. 1903

Name Doe, Jane

- (4) *Family History:* Father died of cancer of stomach, 1899.
Twin sister epileptic.
- (4) *Home Conditions:* Lives with mother, twin sister, ten yr. old sister and seventeen yr. old brother. Shares badly ventilated room with two sisters. Home neat and thrifty. 5 rooms and bath. Garden.
- Income Conditions:* Mother owns home and Lucy and 17 yr. old brother (earning about \$8.00 wk.) support family.
- Savings:* Yes.



① Apr. 8, 1914



	Date	Complaint	Treatment	Remarks	By
(1)	4-5-'14	Examination.	No organic trouble. General health good, but must have more sleep and avoid tea and coffee. Should consult oculist because of headaches. Tonsils enlarged.		M.
(2)	4-11-'14	Headaches.	O B $\frac{5}{8}$ cgl $\frac{5}{8}$ Fundus normal O B $\frac{5}{8}$ Has glasses from optician (obtained 1 $\frac{1}{2}$ years ago) Homatropin necessary.		S. M.
(1)	9-16-'14	Sore throat.	Cathartic. Gargle.		M.
(2)	4-18-'14		Homatropin administered. Shadow O P—Sgl 150. O B—“125 = — cyl 025 + 180. Subj O D—Sgl 150. O B—“125 — cyl 025 + 180 $\frac{5}{8}$.		S. M.
(2)	4-25-'14		Glasses satisfactory.		S. M.
(3)	7-30-'14		Dental work partly completed.		W.
(1)	8-1-'14	Sore throat.	Cathartic. Gargle.		M.
(4)	8-3-'14	Anemic.	Blaud's pills.	Will go to summer camp. Constant follow up about fresh air and sleep necessary.	K.
(3)	9-30-'14		Dental work finished.		W.
(1)	10-19-'14	Sore throat.	Cathartic. Gargle.	Absent 8 days. Consents to operation.	M.
(1)	11-2-'14	Enlarged tonsils.	Operation by M. at German Hospital.	Successful.	M.
(4)	11-23-'14	General follow up.	Health greatly improved.		K.

FIGURE 3—Medical Record. (1) Physician's records, entered in green ink; (2) Oculist's records, entered in violet ink; (3) Dentist's records, entered in red ink; (4) Nurse's records, entered in black ink.

loss of time due to infections. Instructions are given that no one should be permitted to work with the slightest scratch or the slightest ache or pain, or any indication whatever of illness, without consulting the nurse. This has not only cut down the time lost from infections to almost *nil*, but has also made it possible to forestall a great number of incipient cases of illness. This precautionary measure, together with the medical work in general, has undoubtedly been the means of keeping the working force of the Clothcraft Shops absolutely free from all epidemics that have swept through the community in the past few years.

Only one who has gone deeply into the question of health in its relation to efficiency can realize the loss occasioned by lack of knowledge and attention to even the simplest rules of hygiene. A great deal of work is constantly required to educate people to realize the necessity of fresh air, proper diet and regular hours, lack of attention to one or all of which is often the cause of inefficiency. What can be done by working along these lines is well illustrated by the following cases. At the time medical examinations were first installed at the Clothcraft Shops five young women were selected, all having been on the same operation from one to six years. These five had a record for absence, tardiness and general inefficiency much worse than any of the other forty or fifty on the same operation. It was found that all five were accustomed to sleeping with windows closed at night and took no outdoor exercise at any time. All neglected the simple rules of diet and two were accustomed to hurry away from home every morning without breakfast. One was found to be in need of eye glasses. All complained of not feeling fit when they came to work in the morning and complained constantly of headaches and a general debility, which naturally resulted in much absence from work. The cases were interviewed separately and proper advice was given and the ultimate results of irregularity and inefficiency were thoroughly gone into. By consistent follow-up the advice was soon accepted by all, with the result that tardiness and absence were practically eliminated in all cases and efficiency was increased from 20 to 50 per cent.

One phase of this work is worthy of special mention. No one who has ever been in actual touch with the men and women of an industrial organization has failed to run across the case of the man who is down and out because of long sickness in his family. Doctor

bills and bills for medicines are rapidly getting him deeper and deeper in debt or he may be brooding over what he thinks to be the last lingering illness of one of his family. A man with a load such as this can seldom hold up his end in either output or quality. In the vast number of cases, an investigation will show that his troubles can easily be alleviated. He is often the prey of an unscrupulous practitioner or some fraudulent fake who is bleeding the family for every cent that it can scrape together. Very often the family is despairing of medical assistance and is found to be squandering a large portion of its income on fake remedies at the instigation of the ignorant advice of neighbors or under the influence of the advertising carried in unscrupulous newspapers. The prevalence of these conditions is of such amazing extent as to cry for public attention. Unfortunately medical ethics seem too unethical to deal with the situation. By reason of its far-reaching effect, the handling and prevention of such cases must be considered one of the important accomplishments of the medical service of the Clothcraft Shops.

Along with the question of physical fitness must be considered the mental fitness of the individual. Not only does his capacity for certain kinds of work, but also his general fitness for the organization and his ability to advance depend to a great extent upon his mental fitness. Mental suitability, especially the inherent attitude of mind and spirit,—things that are prime essentials in fitness for the organization,—can be fairly well determined by a personal interview at the time of selection and by a reasonable amount of follow-up.

A great deal has been said and written about psychological tests for the purpose of selection, but the little that has been done of practical value has been limited almost entirely to a few tests for special aptitudes where special aptitudes are required. For the present, at least, such tests, even when practically developed, can be used only for the determination of individual limitations. At the Clothcraft Shops investigations and experiments have been carried on for this purpose. The tests that are being developed consist of general intelligence tests, including a test for ability to follow instructions and a series of tests for dexterity. Professor Walter Dill Scott of Northwestern University has been retained for the purpose of assisting in the development of these tests.

Recently a series of tests were given under his direction with the assistance of Professor Henry A. Ruger of Columbia University. Twenty-one subjects were chosen for the purpose and included members of the organization holding executive positions and operatives of different degrees of efficiency in various kinds of work. In practically every case the results of the tests checked up accurately with the estimate of general intelligence and dexterity based on records and personal acquaintance over a long period of time.

The object of these tests is twofold. In the first place, with the best of care errors are bound to occur in original selection and placement. People are often placed on work for which they are not at all suited, and some are occasionally selected who are mentally unfit for the industry. This under no circumstances means that all the mentally deficient are unfit. There are, of course, all kinds of mental deficiencies and there are a great many different kinds of work in most industrial establishments that can be done as efficiently by the subnormal, mentally, as by the normal. The human makeup is so complex that many instances have been found where a normal individual was incapable of reaching the same efficiency in certain kinds of work as a subnormal had reached.

Several cases were taken at the Clothcraft Shops of people who were apparently deficient mentally. A series of tests was made by the Binet method in order to confirm this conviction and in order to get an approximate rating of their mental capacity. In most instances, one who has not had intimate acquaintance with individual cases over a long period of time would not suspect any mental deficiency. A case in point is that of a girl who had been in the employ of the firm for about four years. Being employed rather young, she was put on an operation of the simplest kind. While on this operation she became very efficient. The result was that she was advanced and for another year was tried on various operations without being able to make good. By this time everybody had become more or less disgusted with Mary at home and at the factory and Mary quit to find other work. She returned in a few months, and as her spirit was good, it was decided to give her another trial at machine work. Mary utterly failed to progress in spite of her apparent best efforts and the special attention given her for the purpose. It was then decided to try her at an operation where she was required to follow certain lines of the garments,

trimming off surplus goods with hand shears, an operation that is simple from the point of view of the dexterity and intelligence required. Mary immediately began to make progress and her earnings are averaging with the best. This is a typical case showing the waste of time and effort which it is hoped will be minimized with the assistance of tests. It is the aim to use the tests as an aid in selection, to avoid placing people who are either normal or subnormal on kinds of work for which they are very likely to prove unfit.

The purpose of these tests in the second place is somewhat different, but is of very great importance in an organization such as that of the Clothcraft Shops. It is the practice of this organization to fill positions of clerical or executive nature, and in fact all better positions of any kind, by advancement. By this method a considerable percentage of the organization is moved up during a year's time. At the best a large number of mistakes have been made by advancing individuals to positions beyond their capacity. This, of course, involves eventually a reduction in position or loss of the individual to the organization. In any case the organization has suffered by a position poorly filled and the individual, as well as those responsible for his training, has gone through a period of discouragement which often leaves a permanent effect. It is hoped by means of these tests to minimize these errors.

It must be understood that these tests are for inherent intelligence and not for education or character. Education is valuable in industry only so far as it develops the use of intelligence and character. The limitations to the use of such tests must be well borne in mind, and the error of making generalities must be avoided. Tests of this nature cannot determine what a person *can* do, but are valuable only in assisting in determining what he *cannot* do. Both physical and psychological tests can be and have at times been made the instruments of much abuse. They must not be used to eliminate from industry that large proportion of the community which is not normal, physically or mentally, but must be used to assist in saving to the industry by more scientific placement and intelligent individual development every man or woman who is capable of productive effort.

Proper physical conditions are of vital importance in obtaining results from the men and women of an industrial establishment. There must be good light, good air and sufficient room in which to

work without discomfort. Not only must sanitary conditions be maintained at a high standard for reasons of health and comfort, but a high standard of orderliness and neatness in the surroundings is also essential for its moral effect on the worker as reflected in his work.

Properly maintained comforts and conveniences for the general need are important as equipment, not only to further the work of the employment and service department in general, but in developing the social spirit which is such a big factor in *esprit de corps*. A great deal should be done along these lines, but in order to meet with success, those things only should be immediately installed which are required to meet a permanent need, and those should be developed gradually which have for their object the general welfare of the entire organization.

At the Clothcraft Shops separate locker rooms are maintained for men and women in which each has his individual locker. Bath rooms are also maintained. There are separate dining rooms where every employe has his own seat. Those who wish can obtain simple but wholesome food at cost.

Separate recreation grounds are provided where various sports are indulged in at the noon hour and at other times. The recreation grounds form a big factor in the follow-up work of the individual. Noon-day recreations are beginning to be recognized for their beneficial effect on industrial work. Separate reading rooms and recreation rooms are also maintained. These are used extensively in inclement weather. There is dancing on regular days in the women's recreation room, music being furnished by the factory orchestra. The recreation rooms are also used for many other purposes. During the winter, parties are given by the different divisions of the shop. Entertainment is furnished entirely by members of the organization and their families. These parties are attended by all, including members of the firm, and are not only a source of enjoyment, but tend to develop democracy and good spirit. Other activities of recreational and social nature are the dancing classes and various leagues for baseball, quoits, captain ball, etc. These leagues are composed of groups within the organization itself. The Choral Club is especially worthy of mention. Its popularity can be measured by its size which during the past season was in excess of two hundred members. Records of twenty

women and ten men at the Clothcraft Shops, picked at random from those who make daily use of the recreation facilities, showed in every case, with but two exceptions, a record of efficiency far above the average.

One of the very useful means toward general education and development of the individual is the library. A branch of the Cleveland Public Library is maintained at the office of the employment and service department. Good reading is promoted and in many instances special reading courses are provided. The circulation is not only large, but constantly increasing. Definite information is furnished by the employment and service department concerning special classes in the public schools and other institutions. In fact, systematic efforts are made to aid the individual in all possible ways in furthering his general education and development.

Another feature of the employment and service department that has justified its existence is the bank, an important use of which has been mentioned above. Interest is paid on all deposits of a dollar or over remaining in the bank for a period of three months or more. Deposits are limited to one hundred dollars. When this amount is reached by a depositor, he is notified and advised to transfer his savings to a regular savings institution. At the present writing over 60 per cent of the members of the organization have deposits in the Penny Bank. Thrift is so well recognized as an essential to steadiness and ambition, that it needs no other justification. To a great number of employes it is important that a convenient means for saving, especially the smaller amounts, and the opportunity of obtaining a loan when necessary, are at hand. The habit of being in debt must be supplanted by the habit of looking ahead and saving, if a man is to reach or maintain any standard of efficiency. Everyone is familiar with the loan shark evil. This evil has been entirely eliminated at the Clothcraft Shops. In the first place every case that came to the attention of the management was fought in courts, so that now loan sharks refuse to lend money to employes. Employes can obtain loans for small amounts by applying to the employment and service department, provided a full statement is made as to financial affairs, and provided further that the money lent be applied directly by the department should it deem this advisable. Occasionally loans of large amounts are

granted by application to the management. Campaigns for savings are occasionally instituted and there is always a lively campaign for deposits during the few months preceding September for the purpose of stimulating people to save for vacation week. The entire plant closes down the first week in September for a vacation for all.

In touching upon institutional funds, it seems advisable that something be said about the question of industrial insurance. There seems to be no doubt as to the necessity of industrial insurance, but the question as to whether the state or the industry shall eventually maintain its various features has not as yet been decided in the United States. Most states are providing workmen's compensation for accidents incurred during employment. Some of these laws provide further for occupational diseases. No matter whether or not the state will eventually take over other features of industrial insurance, matters of this kind must always be developed first by private enterprise. The question of industrial insurance, therefore, in cases not already covered by state insurance, is a question of management.

For various motives, not all of them sound, the question of insurance has been left in most instances to the employes themselves. This has been generally done as a sop to the propaganda of committee or collective administration. A thorough investigation by the management of the Clothcraft Shops, conducted over a number of years, covering nearly every known scheme, has shown practically all of these plans to have resulted in failure or at the best to be uneconomic and unscientific. Such results are bound to follow wherever groups, uninformed and unfitted, try to perform tasks which require scientific investigation and expert administration. A group of employes can no more administer an insurance scheme efficiently than a foundry can produce silk.

Insurance is a business in itself, requiring trained experts with an enormous amount of special knowledge for the adequate administration of its various features. The management of an industrial organization can and should place itself in the position of an interested guarantor or sponsor for any insurance scheme and as such should contribute toward it and be responsible for its immediate application. It is not feasible, however, for either the management or the employes of an industrial organization to acquire along

with their other duties the special knowledge and expert training necessary for the economic and efficient administration of any insurance scheme. It is the plan of the Clothcraft Shops to put the insurance features, including accidents, sickness, old age and death in the hands of an insurance company that has a department organized for their supervision and administration.

It is impossible to touch upon all the features of the useful service performed in the practical, daily administration of the employment and service department. The chief thing is its personal contact and follow-up. In this connection one of the important features is the home visiting. An automobile is maintained to assist in this work. The homes of nearly all new employes are visited at the earliest possible opportunity and practically all absentees are visited by the factory nurse. In case of illness, assistance and advice rendered have often returned the absentee to his work in a far shorter period than if left to his own devices. Following up delinquency and other matters frequently calls for home contact. Unfortunately it is often found that home influence runs contrary to the factory influence. The home visits as a whole have been found of inestimable value in obtaining individual results and coöperation.

While the work of the employment and service department, as shown above, is directly aiming at the development of the individual so that he can fill his position steadily and perform his duties efficiently, it is essential that intelligent coöperation in all departments of the business and all its policies be recognized as an important responsibility of the management. For one thing competent instruction must be provided. This is effected at the Clothcraft Shops by a corps of instructors who are personally responsible for the instruction of all new hands and old hands on new operations until they have shown suitable progress and developed to a satisfactory state of efficiency.

Steadiness of employment must be considered not only from the point of view that it is desirable for reasons of profit, but also from the point of view that it is a responsibility of the management to furnish a steady and efficient employ with steady opportunity. From this point of view alone it becomes the duty of the management to standardize the work and working conditions. The standardization of the purchasing and handling of materials to maintain

an even flow and an even balance of work is not alone essential, but the balance of employes is also of greatest importance. In most industrial organizations it will be found that there are constantly employed for a given purpose considerably more people than are necessary to turn out the work. In such instances it will also be found that the number of people employed varies to such a degree that there is not only no opportunity given for steady employment, but the distribution of opportunity varies from time to time. Means such as are used under scientific management for determining the standard methods and standard times for performing a task should be used to determine the exact number of people to be maintained in every position.

Whenever possible the workers should be trained to perform more than one kind of work. In this way they can be used to help out in cases of emergency, some of which occur daily in every large establishment because of absences or other reasons. In the Clothcraft Shops all those willing to learn other work are given opportunity to do so and are paid a retainer while learning. All employes who are capable of helping out on an operation are carefully listed and a definite hourly retainer is paid them whenever they do work on which they are not able to earn as much as on their regular operation. At all times the normal working force should be maintained except only under such conditions as are forced upon the industry and beyond its control. Where there is a temporary lack of orders due to industrial depression, seasonal fluctuations and the like, the number of employes should not be cut down, but the number of hours of employment should be reduced equally throughout the whole organization. At the Clothcraft Shops this policy was strictly adhered to during the recent industrial depression, which reduced its normal working hours by approximately 15 per cent for a period of six months. While the percentage of quitters for this period was noticeably increased, nevertheless, this increase was diminutive as compared to the number it would have been necessary to lay off had another policy been followed. We believe, moreover, the duty of providing steady employment under all possible conditions is a moral responsibility to the community at large.

The seasonal character of some industries is a well recognized part of this problem. There is no doubt that in order to overcome

this obstacle a great deal of public education is necessary. The fact remains, however, that the problem can for the greater part be solved by the industry itself. For this purpose purchases must be standardized and the purchasing policy itself so developed that a good proportion of orders can be anticipated.

In this connection one of the most important things is the sales policy. Many businesses, even though having a highly developed manufacturing organization, have not a sales policy or sales organization, worthy of the name. It is only in exceptional instances that the sales policy and the manufacturing policy are properly co-related. Ordinarily the sales department is administered with entire disregard of its most important function, *viz.*, to market a product that will permanently be of most profit to the entire organization. The Joseph & Feiss Company, in order to meet the problem of furnishing steady employment, have for some time past conducted an advertising campaign concentrating on certain staple numbers. The volume of sales that has resulted has been sufficient under normal conditions to provide steady employment when other establishments in the same industry have been shut down. As to this phase of the problem, however, the surface has, as yet, only been scratched. The men who hold the purse strings must sooner or later learn that the correct point of view, both morally and for the purpose of permanent return not only to themselves, but to all the organization, involves the realization that the factory does not exist for the purpose of turning out for a temporary profit whatever it is easiest to sell, but that the sales force is part of the manufacturing organization to market whatever it can most steadily and, therefore, most profitably produce.

Only a thorough realization of all the actual problems and earnest efforts towards their solution will bring results. While the greater part of these results shows in the spirit of the organization and in the spirit of its personal relationships and can only be judged by actual investigation, an important result is a decided steadying of the working force, which can be judged by accurate data. This is readily discernible in the accompanying records and charts in use at the Clothcraft Shops.

From the record of absentees and tardies (figure 4) it will be seen that during the first six months of 1915 the average number of tardies was only two and one-half persons per day. This is equal

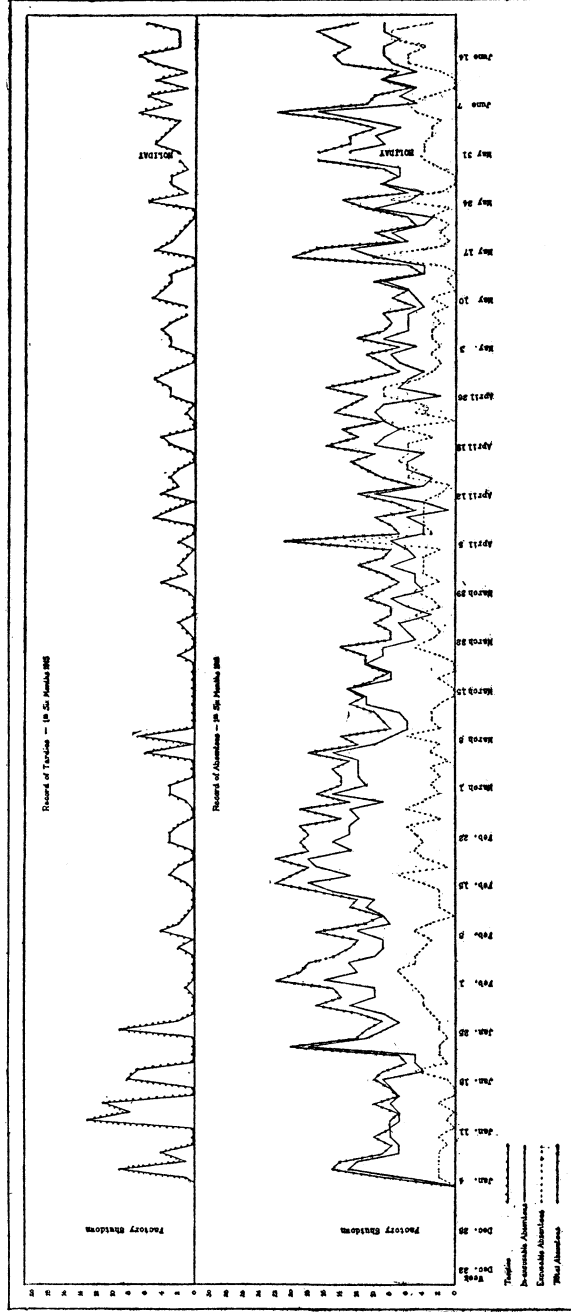


FIGURE 4
Record of Absentees and Tardies

to one-third of 1 per cent of the working force. For purposes of accurate follow-up absences are classified as excusable and inexcusable. Figure 4 shows that the excusable absences averaged a little over seven persons per day or .9 of 1 per cent of the working force. The inexcusable absences averaged only a little less than four per day or .5 of 1 per cent. The total absentees per day averaged eleven or only 1.4 per cent.

In regard to quitters a little more explanation is necessary. Very few people realize the tremendous cost to industry from this cause. Various estimates of this cost have been made. These estimates vary from fifty to two hundred dollars per person, depending on the nature of the work and character of employee obtainable and the percentage of old employees who are rehired. Taking even the lowest possible estimate, it would seem that any reasonable outlay of both money and effort for the purpose of reducing this industrial and social waste would be justifiable. At the Clothcraft Shops in recognition of the tremendous loss from this source and the consequent value of notice in case of a contemplated severance from the organization, such notice is paid for at the rate of an amount equal to a day's pay for every week's notice, but not in any case to exceed an amount greater than four days' pay.

For the purpose of compiling comparable data as regards "labor turnover," standard practices should be established. The average standing payroll for any given period should be the basis as this gives the average number of positions to be filled. In case there is a general reduction in the number of positions during the period, the percentage of new employees to the average standing payroll should be taken. In case there is an increase in the organization, the percentage of quitters to the average standing payroll should be taken. In the first case that amount by which the number of quitters exceeds the number of new employees will account for the reduction. In the second place, the amount by which the new employees exceed the number of quitters will account for the increase.

For purposes of intelligent comparison, quitters should be classified as "unavoidable" and "avoidable." "Unavoidable" should include discharges, death, sickness, accident, marriage, retirement, etc. "Avoidable" should include cases of dissatisfaction and all cases that cannot unquestionably be classified as

unavoidable. In every organization there are bound to be some unavoidable quitters. The records of the avoidable quitters, therefore, is the important thing. The record of new employes and quitters for 1914, as shown in Figure 5, demonstrates, among other things, that the avoidable quitters had been reduced to a figure less than one half as large as that of the unavoidable quitters and were only 6.4 per cent of the working force.

Nothing shows more clearly the progress which has been made in this respect at the Clothcraft Shops than the record of "labor turnover" for the five years from 1910 to 1914 inclusive as shown in Table 1.

TABLE 1.—LABOR TURNOVER 1910-1914

<i>Year</i>	<i>Stand. Payroll</i>	<i>New Hands</i>	<i>Per cent</i>
1910.....	1044	1570	150.3
1911.....	951	807	84.8
1912.....	887	663	74.7
1913.....	874	569	65.1
1914.....	865	291	33.5

These records tell their own story. It may be also worthy of note that over one third of the members of the Clothcraft organization have been in the continuous employ of the company for a period of five years or more. It is practically impossible to obtain accurate figures as to normal labor turnover. In the few instances where figures are available, progress has already been made. In the case of one large concern in the men's clothing industry, the number of people employed for 1914 amounted to 115 per cent of the payroll, which is undoubtedly better than the average in the industry. The following relating to a somewhat similar industry is from the report of the Federal Industrial Relations Commission (page 166):

An investigation of the cloak and suit industry in New York showed the maximum number of employes in sixteen occupations during any week of the year to be 1,952. Actually, however, the payrolls showed that 4,000 people were employed in these occupations.

It can readily be seen how intricate are the problems involved in the art of handling men. Every step toward the solution of these problems is a step in the direction of democracy. Efficiency as a whole is accomplished by efficiency of the individual and efficiency of the individual is accomplished only by methods involving personal contact.

In a recent noteworthy article on *The Progress of the Social Conscience*² by William Jewett Tucker, President Emeritus of Dartmouth College, the following statement is made: "Public opinion as the governing force in modern democracy is the objective of social conscience." It is the awakening of the social conscience

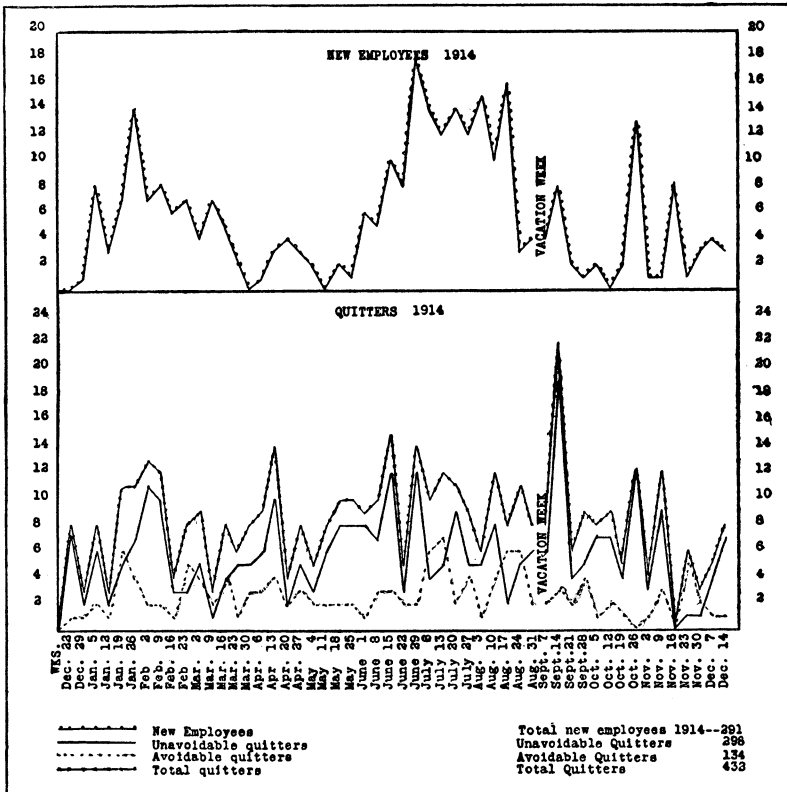


FIGURE 5—Record of New Employees and Quitters

that is making the man at the head of an organization realize the necessity of free expression of public opinion. The development of this expression through the natural channels of intimate contact will lead in the most normal and direct way to the democratization of industry.

² Appearing in the 1915 September issue of the *Atlantic Monthly*.

The existence of democracy in an organization is not dependent upon any particular method or any particular form of expression.

Professor Thomas N. Carver of Harvard University in his book entitled *Essays in Social Justice*³ says:

This leads us to a consideration of a statement which is so frequently set forth in the ephemeral literature of the day, by popular writers and speakers to the effect that as the nineteenth century achieved political democracy it remains for the twentieth century to achieve industrial democracy. They who have this point of view have apparently never gotten beyond the idea that balloting and democracy are synonymous. We have heard a great deal of preaching in our day regarding idolatry of wealth, of the worship of the almighty dollar. We have heard apparently little of the worship of the almighty ballot, and yet of the two forms of idolatry the latter is not only more vicious, but more silly. Two things and two things only are essential to real democracy. The first is an open road to talent, that is to say that every man shall have an opportunity to rise to positions of power and responsibility in proportion to his ability, regardless of birth, privilege, caste or other social barriers. The son of the peasant may become the ruler in government or the employer in business by sheer force of his own merit, if he happens to possess merit. The second essential of pure democracy is that they who are in positions of power and responsibility shall be made sensitive to the needs, the desires, and the interests of those over whom they exercise power and responsibility.

The open road to talent is an essential to every successful organization. At the Clothcraft Shops the road is not only open, but every possible aid is given for advancement. Practically all positions in the organization, including clerical and executive positions, are filled by those who by reason of sheer personal merit have come up from the ranks.

One of the most important functions of the employment and service department is to develop organization spirit and free expression of personal and public opinion. It forms a direct channel of expression from its source to the ear of the management. In fact, the chief purpose of a scientifically organized department is nothing more than the development of that intimate personal contact so necessary to management. At the Clothcraft Shops about one fifth of the total number of employes come daily in contact with the employment and service department. All cases where direct contact with the management would be beneficial are immediately referred to it. This requires constant daily contact of the management with the department, and brings it into intimate relationship

³ Harvard University Press, Cambridge, Mass., 1915.

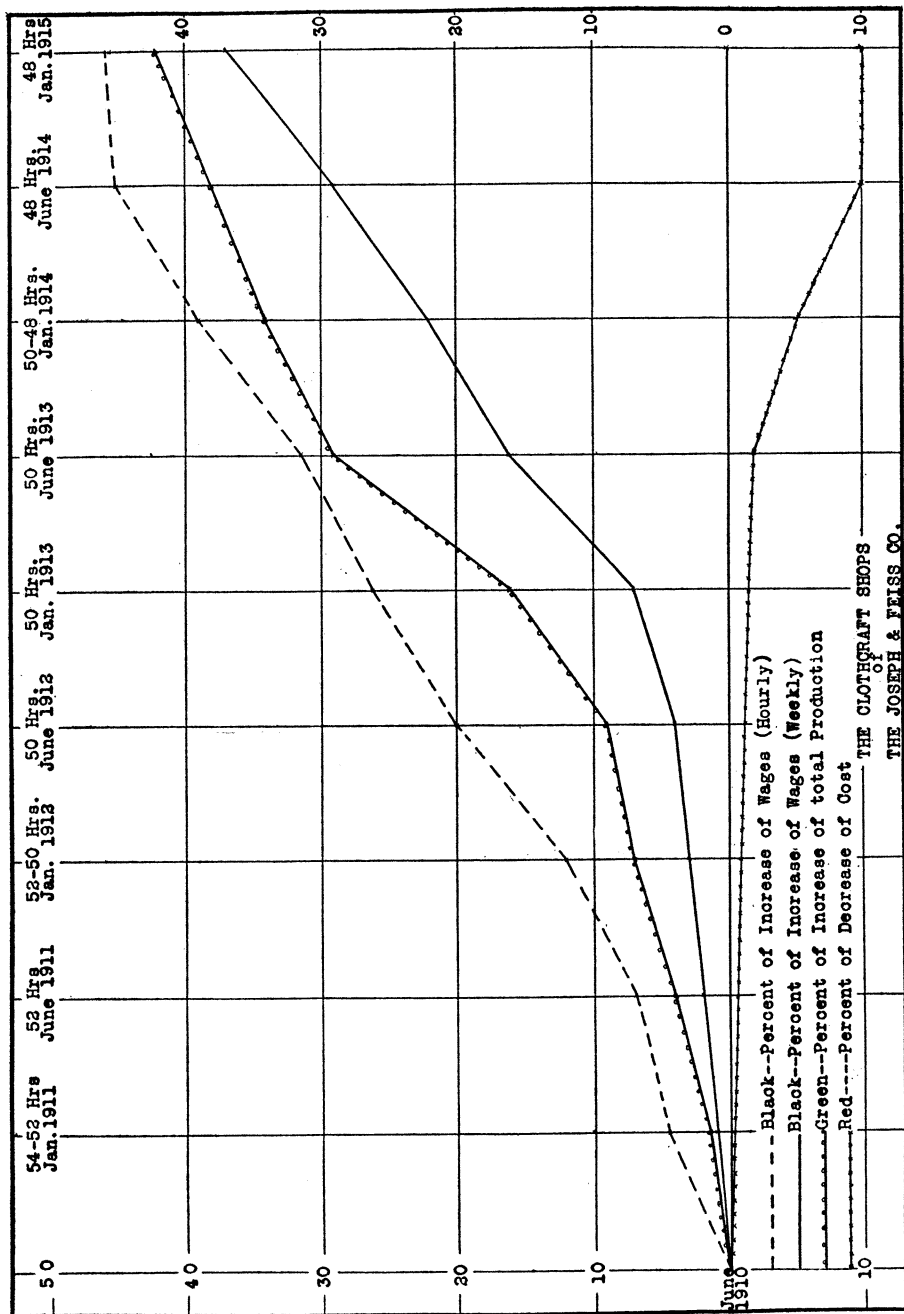


FIGURE 6--Record of Progress

with a great many more cases than would be possible in the average organization of much smaller size. Wherever the management assumes the policy of the closed door, this department may well be shut down.

Results cannot be accomplished in the spirit of charity, but must emanate entirely from a sense of justice. It must be understood that work along the lines described above can never take the place of wages. Such work must have as a reason for its existence not only increased efficiency, but the increased reward to which increased efficiency is entitled. Figure 6 is a chart showing the progress of the Clothcraft Shops in respect to wages and efficiency from June, 1910, to January, 1915. This shows during this period an increase in production of 42 per cent; an increase in the average individual hourly wages of 45 per cent, weekly wages 37 per cent; and a decrease in total manufacturing cost of about 10 per cent. During this period the weekly working schedule was reduced from fifty-four to forty-eight hours.

It is our belief that results, such as these, are obtainable only when scientific management is scientifically applied. Scientific management will live if for no other reason than that it has faced the problem squarely and recognizes that the science of management is the science of handling men.

That scientific management is a solution of the industrial problem involving all the ethics of human relationship was recognized by no one so well as by the father of scientific management himself. For proof we need only remember the four principles of scientific management⁴ as propounded by Mr. Taylor, and his well known words that the "Product of a factory is not materials, but men." The most hopeful sign of the times is the awakening public conscience in regard to the elements of success. The measure of success is no longer how much you make, but how you make it.

⁴ 1. The development of a true science.

2. The scientific selection of the workman.

3. His scientific education and development.

4. Intimate friendly coöperation between the management and the men.
The Principles of Scientific Management by Frederick Winslow Taylor, Harper & Bros., New York.